AMENDMENTS TO THE CLAIMS:

This listing of claims replaces all prior versions and listings of claims in the application:

1-7. (Cancelled)

8. (Currently Amended) A transistor comprising:

a semiconductor substrate, the substrate being substantially free of silicon; and

a gate dielectric layer formed over a portion of the substrate, wherein the gate dielectric layer comprises a material having a dielectric constant greater than 7.8 ~~about 10~~, ~~and~~ wherein a portion of the gate dielectric layer has a thickness that is large enough to ~~prevent a portion of off-state leakage current that is due to quantum mechanical tunneling of electron wavefunction across the gate dielectric layer from being a dominant source of off state~~ reduce gate leakage current, and wherein the material comprises a compound having a free energy of formation that is lower than a free energy of formation of a compound that is formed between the material and the semiconductor substrate.

9. (Original) The transistor of claim 8, further comprising:

a gate electrode defined over a portion of the gate dielectric layer.

10. (Original) The transistor of claim 9, further comprising:

a source region and a drain region proximate the gate electrode, the source and drain regions defined by introduced ions.

11. (Original) The transistor of claim 10, further comprising:

an interlayer dielectric layer over at least part of the gate electrode, the source region, and the drain region

12. (Original) The transistor of claim 11, wherein the interlevel dielectric defines first, second, and third openings in the interlayer dielectric layer over at least part of the gate electrode, the source region, and the drain region.

13. (Original) The transistor of claim 12, further comprising:

a metal within the first, second, and third openings in contact with the gate electrode, source region, and the drain region.

14. (Original) The transistor of claim 8, wherein the substrate comprises a material having a carrier mobility greater than a carrier mobility of silicon.

15. (Original) The transistor of claim 14, wherein the substrate comprises at least one of germanium, indium antimonide, lead telluride, indium arsenide, indium phosphide, gallium arsenide, and gallium antimonide.

16. (Previously Amended) The transistor of claim 8, wherein the substrate has a bandgap narrower than a bandgap of silicon.

17. (Original) The transistor of claim 16, wherein the gate dielectric comprises at least one of aluminum oxide, hafnium oxide, zirconium silicon oxide, strontium titanium oxide, tantalum oxide, barium titanium oxide, zirconium oxide, yttrium oxide, barium strontium titanium oxide, and silicon nitride.

18. (Original) The transistor of claim 9, wherein the gate electrode comprises at least one of titanium nitride, tantalum nitride, titanium, tantalum, nickel, platinum, polygermanium, and polysilicon.

19. (Currently Amended) A device comprising:

a semiconductor substrate, the substrate being substantially free of silicon;

a well formed in a portion of the substrate, the well having a first type of dopant;

a gate dielectric layer formed over a portion of the well, wherein the gate dielectric layer comprises a material having a dielectric constant greater than 7.8 ~~about 10~~, ~~and~~ wherein a portion of the gate dielectric layer has a thickness that is large enough to ~~prevent a portion of off-state leakage current that is due to quantum mechanical tunneling of electron wavefunction across the gate dielectric layer from being a dominant source of off-state~~ reduce gate leakage current, and wherein the material comprises a compound having a free energy of formation that is lower than a free energy of formation of a compound that is formed between the material and the semiconductor substrate;

a gate electrode defined over a portion of the gate dielectric layer; and

a source region and a drain region defined proximate the gate electrode in the well, the source and drain regions being defined by a second type of dopant.

20. (Original) The device of claim 19, wherein the first dopant is n-type and the second dopant is p-type.

21. (Original) The device of claim 19, wherein the first dopant is p-type and the second dopant is n-type.